

INTERNATIONAL SEARCH REPORT

Intern application No
PCT, 04/038250

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 F16C33/78 F16J15/34

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F16C F16J B62D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 167 297 A (CHEESMAN ET AL) 11 September 1979 (1979-09-11) column 2, line 18 - column 6, line 28	1,2,4, 6-10, 16-21, 24,25
X	EP 0 677 673 A (SNR ROULEMENTS) 18 October 1995 (1995-10-18) column 1, line 49 - column 2, line 39	1-3,8, 11,18-20
X A	US 2 647 025 A (DEFFENBAUGH JOHN L) 28 July 1953 (1953-07-28) column 1, line 53 - column 4, line 5; figure 1 ----- -/--	1,2,5, 18,19 16,21, 24,25

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- *&* document member of the same patent family

Date of the actual completion of the international search

24 March 2005

Date of mailing of the international search report

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2 275 307 A (MURDEN WILLIAM T) 3 March 1942 (1942-03-03) page 1, column 1, line 30 - page 2, column 1, line 39; figures 1,2 -----	1-3
X	EP 0 591 123 A (ATLAS COPCO TOOLS AB, NACKA; ATLAS COPCO TOOLS AB) 6 April 1994 (1994-04-06) column 1, line 36 - column 2, line 36; figure 1 -----	1,2
X	US 3 201 134 A (HAYATIAN ALLAN A) 17 August 1965 (1965-08-17) column 3, line 7 - column 6, line 44; figures -----	26-29
X	US 6 086 069 A (BEDFORD ET AL) 11 July 2000 (2000-07-11) column 2, line 3 - column 3, line 7; figures -----	26-28
A	FR 2 600 741 A (JADE SA) 31 December 1987 (1987-12-31) page Q; figures 1,2 -----	26,29

INTERNATIONAL SEARCH REPORT

ation on patent family members

Intern

ication No

PCT

/038250

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4167297	A	11-09-1979	NONE	
EP 0677673	A	18-10-1995	FR 2718500 A1 EP 0677673 A1	13-10-1995 18-10-1995
US 2647025	A	28-07-1953	NONE	
US 2275307	A	03-03-1942	NONE	
EP 0591123	A	06-04-1994	SE 470167 B DE 69327627 D1 DE 69327627 T2 EP 0591123 A2 JP 3465932 B2 JP 6201049 A SE 9202849 A US 5575486 A	22-11-1993 24-02-2000 06-07-2000 06-04-1994 10-11-2003 19-07-1994 22-11-1993 19-11-1996
US 3201134	A	17-08-1965	NONE	
US 6086069	A	11-07-2000	DE 69818795 D1 DE 69818795 T2 EP 0932779 A1 JP 2001507111 T WO 9910668 A1	13-11-2003 05-08-2004 04-08-1999 29-05-2001 04-03-1999
FR 2600741	A	31-12-1987	FR 2600741 A1	31-12-1987